

IN THE CLAIMS:

Please cancel claims 2, 8, 14, and 22 without prejudice.

Please rewrite the claims as follows:

- 1 1. (Currently Amended): A method for load balancing a plurality of servers, the method
2 comprising:
 - 3 providing a plurality of control blocks, each control block associated with a num-
4 ber of active connections a server is connected with, the control block configured to con-
5 trol at least one server with the associated number of connections in a server list;
6 determining a metric for each server by dividing the number of connections on the
7 server by the capacity of the server, wherein the metric is kept as a quotient/remainder
8 pair;
9 storing the quotient/remainder pair in the control block;
10 incrementing the remainder by one for every connection added to the server;
11 decrementing the remainder by one for every connection removed from the
12 server;
13 causing each control block to point to a server with a ~~least value ascertained by~~
14 ~~determining the number of connections on the server relative to the server's capacity to~~
15 ~~handle connections~~ lowest value of the metric;
16 selecting the control block associated with the least number of connections; and
17 selecting the server pointed to by the control block.

1 2. (Cancelled)

1 3. (Original): The method as in claim 1, further comprising:

2 causing the control block with the server having an added/removed connection to
3 transfer the server to an adjacent control block, wherein the adjacent control block is as-
4 sociated with the number of connections pertaining to the transferring server;

5 causing the control block to transfer the metric of the server to the adjacent con-
6 trol block; and

7 updating the pointer to point to the next server on the list of the control block.

1 4. (Original): The method as in claim 3, further comprising:

2 removing the control block if the control block does not have a server on the
3 server list.

1 5. (Original): The method as in claim 3, further comprising:

2 causing the adjacent control block to receive the transferring server;

3 causing the adjacent control block to receive the metric of the transferring server;

4 and

5 causing the adjacent control block to update and sort the server list.

1 6. (Original): The method as in claim 5, further comprising:

2 adding a control block if there is no control block associated with the number of
3 connections of the transferring server.

1 7. (Currently Amended): A computer readable medium comprising:

2 said computer readable medium containing instructions for execution on a proces-
3 sor for the practice of

4 ~~A processor executable medium which when executed by a processor performs~~
5 a method for load balancing a plurality of servers, the method having the following steps,
6 comprising:

7 providing a plurality of control blocks, each control block associated with a num-
8 ber of active connections a server is connected with, the control block configured to con-
9 trol at least one server with the associated number of connections in a server list;

10 determining a metric for each server by dividing the number of connections on the
11 server by the capacity of the server, wherein the metric is kept as a quotient/remainder
12 pair;

13 storing the quotient/remainder pair in the control block;

14 incrementing the remainder by one for every connection added to the server;

15 decrementing the remainder by one for every connection removed from the
16 server;

17 causing each control block to point to a server with a ~~least value ascertained by~~
18 ~~determining the number of connections on the server relative to the server's capacity to~~
19 ~~handle connections~~ lowest value of the metric;

20 selecting the control block associated with the least number of connections; and

21 selecting the server pointed to by the control block.

1 8. (Cancelled)

1 | 9. (Currently Amended): The ~~processor-executable~~ computer readable medium as in
2 claim 7, further comprising:

3 causing the control block with the server having an added/removed connection to
4 transfer the server to an adjacent control block, wherein the adjacent control block is as-
5 sociated with the number of connections pertaining to the transferring server;

6 causing the control block to transfer the metric of the server to the adjacent con-
7 trol block; and

8 updating the pointer to point to the next server on the list of the control block.

1 | 10. (Currently Amended): The ~~processor-executable~~ computer readable medium as in
2 claim 9, further comprising:

3 removing the control block if the control block does not have a server on the
4 server list.

1 | 11. (Currently Amended): The ~~processor-executable~~ computer readable medium as in
2 claim 9, further comprising:

3 causing the adjacent control block to receive the transferring server;

4 causing the adjacent control block to receive the metric of the transferring server;
5 and

6 causing the adjacent control block to update and sort the server list.

1 | 12. (Currently Amended): The ~~processor-executable~~ computer readable medium as in
2 claim 11, further comprising:

3 adding a control block if there is no control block associated with the number of
4 connections of the transferring server.

1 13. (Currently Amended): A load balancing apparatus comprising:

2 a plurality of control blocks, each control block associated with a number of ac-
3 tive connections a server is connected with, the control block configured to control at
4 least one server with the associated number of connections;

5 a metric of the server, kept as a quotient/remainder pair, wherein the remainder is
6 incremented by one for every connection added to the server, and the remainder is dec-
7 remented by one for every connection removed from the server;

8 a memory to store the quotient/remainder pair;

9 a pointer in each control block that points to a server with a ~~least value ascer-~~
10 ~~tained by determining the number of connections on the server relative to the server's ca-~~
11 ~~capacity to handle connections~~ lowest value of the metric; and

12 a selection circuit that selects the control block associated with the least number
13 of connections and further selects the server pointed to by the control block.

1 14. (Cancelled)

1 15. (Original): The load balancing apparatus as in claim 13, further comprising:

2 the control block configured to transfer the server having an added/removed con-
3 nection to an adjacent control block, wherein the adjacent control block is associated with
4 the number of connections pertaining to the transferring server;

5 the control block further configured to transfer the metric of the server to the ad-
6 jacent control block; and

7 the control block configured to update the pointer to point to the next server on
8 the list of the control block.

1 16. (Original): The load balancing apparatus as in claim 15 further comprises:
2 the control block is de-activated if the control block does not have a server on the
3 server list.

1 17. (Original): The load balancing apparatus as in claim 15, further comprises:
2 the adjacent control block configured to receive the transferring server; and
3 the adjacent control block further configured to receive the metric of the transfer-
4 ring server, wherein the adjacent control block updates and sorts the server list.

1 18. (Original): The load balancing apparatus as in claim 17, further comprises:
2 a control block that is activated to receive the transferring server if there is no
3 control block associated with the number of connections of the transferring server and the
4 control block is associated with the number of connections of the transferring server.

1 19. (Currently Amended): An apparatus for load balancing a plurality of servers, the ap-
2 paratus comprising:

3 means for providing a plurality of control blocks, each control block associated
4 with a number of active connections a server is connected with, the control block config-
5 ured to control at least one server with the associated number of connections in a server
6 list;

7 means for determining a metric for each server by dividing the number of connec-
8 tions on the server by the capacity of the server, wherein the metric is kept as a quo-
9 tient/remainder pair;

10 means for storing the quotient/remainder pair in the control block;

11 means for incrementing the remainder by one for every connection added to the
12 server;

13 means for decrementing the remainder by one for every connection removed from
14 the server;

15 means for causing each control block to point to a server with a ~~least value ascer-~~
16 ~~tained by determining the number of connections on the server relative to the server's ca-~~
17 ~~capacity to handle connections~~ lowest value of the metric;

18 means for selecting the control block associated with the least number of connec-
19 tions; and

20 means for selecting the server pointed to by the control block.

1 20. (Currently Amended): A method for load balancing a plurality of servers, the
2 method comprising:

3 associating each of the plurality of servers with one of one or more control blocks,
4 each control block representing a number of connections of the associated servers;

5 determining a metric for each associated server by dividing the number of connec-
6 tions on the server by an assigned weight of the server, wherein the metric is kept as a
7 quotient/remainder pair;

8 storing the quotient/remainder pair in the control block;

9 incrementing the remainder by one for every connection added to the server;

10 decrementing the remainder by one for every connection removed from the
11 server;

12 pointing, within each control block, to a server with a ~~least value, the value based~~
13 ~~on the number of connections on the server relative to an assigned weight of each server-~~
14 lowest value of the metric;

15 selecting the control block associated with the least number of connections; and
16 selecting the server pointed to by the control block.

1 21. (Previously Presented): The method as in claim 20, wherein the assigned weight
2 represents a server's capacity to handle connections.

1 22. (Cancelled)

1 23. (Currently Amended): A system for load balancing a plurality of servers, the system
2 comprising:

3 one or more clients to send client requests; and

4 a virtual server to receive and process the client requests, the virtual server hav-
5 ing,

6 A) a plurality of real servers, and

7 B) a load balancing apparatus to receive the client requests and load bal-
8 ance the client requests among the plurality of real servers, the load balancing ap-
9 paratus further having,

10 i) one or more control blocks, each of the plurality of real servers
11 associated with one of one or more control blocks, each control block rep-
12 resenting a number of connections of the associated servers,

13 ii) a metric for each associated server, kept as a quotient/remainder
14 pair, wherein the remainder is incremented by one for every connection
15 added to the server, and the remainder is decremented by one for every
16 connection removed from the server,

17 iii) a memory to store the quotient/remainder pair,

18 ~~iii~~v) a pointer within each control block that points to a server with
19 a least value, ~~the value based on the number of connections on the server~~
20 ~~relative to an assigned weight of each server~~ lowest value of the metric,
21 and

22 ~~iii~~v) a selection circuit that selects the control block associated
23 with the least number of connections and further selects the server pointed
24 to by the control block.